

To: Worstell, Aaron[Worstell.Aaron@epa.gov]
From: Dygowski, Laurel
Sent: Wed 8/14/2013 9:28:20 PM
Subject: RE: Buffalo (Wyo.) Bulletin: Clarifying regional haze

yes, I think we can respond to alot with that statement

Laurel Dygowski

Regional Haze Program Coordinator

Air Quality Planning Unit

EPA Region 8

1595 Wynkoop

MS 8P-AR

Denver, CO 80202

(303) 312-6144

From: Worstell, Aaron
Sent: Wednesday, August 14, 2013 3:25 PM
To: Dygowski, Laurel
Subject: RE: Buffalo (Wyo.) Bulletin: Clarifying regional haze

“It’s not anything extreme or outrageous.” Can I use that in response to comments?

Aaron J. Worstell

Environmental Engineer

U.S. Environmental Protection Agency - Region 8

Air Program - Mail Code 8P-AR

1595 Wynkoop Street

Denver, CO 80202

Phone: 303-312-6073

Fax: 303-312-6064

worstell.aaron@epa.gov

What is wanted is not the will to believe, but the wish to find out, which is the exact opposite. -Bertrand Russell

From: Dygowski, Laurel
Sent: Wednesday, August 14, 2013 2:24 PM
To: Worstell, Aaron
Subject: FW: Buffalo (Wyo.) Bulletin: Clarifying regional haze

Laurel Dygowski

Regional Haze Program Coordinator

Air Quality Planning Unit

EPA Region 8

1595 Wynkoop

MS 8P-AR

Denver, CO 80202

(303) 312-6144

From: Mylott, Richard
Sent: Wednesday, August 14, 2013 2:18 PM
To: Daly, Carl; Dygowski, Laurel; Videtich, Callie; Watchman-Moore, Derrith; Fallon, Gail; McGrath, Shaun; Cantor, Howard; Smith, Paula
Cc: Allen, Matthew; McClain-Vanderpool, Lisa; Morales, Monica; Fells, Sandy
Subject: Buffalo (Wyo.) Bulletin: Clarifying regional haze

Clarifying regional haze

[Previous](#) [Next](#)



Bulletin photo by Holly Kays

Regional haze

Proponents of the EPA's plan say more aggressive measures are needed to restore visibility to Wyoming's natural areas, while opponents say the plan developed by Wyoming's Department of Environmental Quality is sufficient and haze is a problem only during fire season, as in this photo.

Posted: Wednesday, August 14, 2013 1:10 pm | *Updated: 1:13 pm, Wed Aug 14, 2013.*

Clarifying regional haze Holly Kays, holly@buffalobulletin.com buffalobulletin.com

When Buffalo Mayor Randy Dyess turned his personal airplane toward Cheyenne July 17, he was on a mission. The Environmental Protection Agency had recently released a proposal to replace parts of Wyoming's newly developed plan to reduce regional haze, and he was hopping mad about it.

"This rule does nothing to change visibility," Dyess said. "All this new EPA rule does is destroys jobs, destroys our economy and hurts every man, woman and child in our great state.

"I have lived in Wyoming for 27 years, and over that time there has been no haze in Wyoming until there is a fire," he said. "I love Wyoming, and I care about the environment. I can assure you that we are better stewards of Wyoming than Washington will ever be."

The Powder River Basin Resource Council, a local conservation group, couldn't disagree more. They say the EPA's plan is necessary to restore the pristine quality of the targeted natural areas, which in Wyoming include Grand Teton and Yellowstone National Parks and North Absaroka, Washakie, Fitzpatrick and Bridger wilderness areas.

"It's not anything extreme or outrageous," said Shannon Anderson, an organizer for PRBRC. "It's really the best pollution (reducing) technology."

Source of contention

The controversy stems from a 1999 EPA rule requiring states to restore 156 natural areas to their historic visibility ranges by 2064 in pursuit of goals outlined by the Clean Air Act. Development in recent centuries, the EPA says, has greatly reduced the distance people are able to see across the landscape. That process came to a head with the EPA's proposal to replace parts of Wyoming's plan with its own. The move was met with sharp criticism from local and state governments and applause from conservation groups. Among those local government officials was Dyess, whose scathing comments at the Cheyenne hearing

were reinforced by Wyoming Gov. Matthew Mead, who spoke at his first public hearing testimony as governor.

Wyoming's Department of Environmental Quality began developing the state's plan in 1999 and created rules for reducing nitrogen oxide, sulfur dioxide and ash emissions. Though the EPA approved the latter two sets of regulations, it proposed to disapprove Wyoming's regulations regarding nitrogen oxide on the grounds that the low-NOx burners that the state's regulations mandate do not satisfy the 2004 EPA amendment requiring use of the best available retrofit technology, referred to as BART.

"When you think of the word 'best,' there is only one technology that fits that definition," said Shannon Anderson of the Sheridan-based conservation group Powder River Basin Resource Council.

According to Anderson, the best technology is selective catalytic reduction, SCR, which converts nitrogen oxide into nitrogen gas and water. That is the technology the EPA rule would require eight Wyoming coal-fired power plants to install, but many other stakeholders say that move would drastically increase energy costs while offering only minimal visibility improvement.

"Wyoming proposes a reduction of annual emissions of nitrogen oxide by roughly 63,000 tons per year," Gov. Mead said during a July 17 public hearing on the rule in Cheyenne. "EPA proposes an additional annual reduction of 2,900 tons of emissions – a negligible amount that will result in imperceptible improvements to visibility. By the year 2022, EPA's plan and Wyoming's plan achieve essentially identical results for air visibility. But the two competing plans differ vastly in their consequences along the way."

Cost considerations

According to Mead, the proposal would cost Wyoming utilities \$180 million in annual costs and \$60 million more in annual costs for a 10-year cost of \$1.2 billion.

Dave Eskelsen, company spokesman for Rocky Mountain Power, which serves nearly one-quarter of Wyoming's population, said the company spent \$900 million between 2005 and 2012 to improve emissions systems at coal-fired power plants in Wyoming to comply with the standards the DEQ was then drafting but would likely have to spend "several hundred million dollars" to install the technology the EPA's proposal would require.

However, Anderson disagrees with these estimates. Anderson's organization arrived at its numbers by considering opinions from sources separate from the EPA, such as the National Park Service and independent air quality consultant Victoria Stamper of Boise, Idaho.

"Five industry studies conducted between 2002 and 2007 have reported the installed unit capital cost of SCRs, or the costs actually incurred by owners, expressed in dollars per kilowatt. These actual costs are all at or lower than \$300/kW," Stamper wrote.

According to the EPA's proposal, "five industry studies conducted between 2002 and 2007 have reported the installed unit capital cost of SCRs (selective catalytic reduction, the preferred technology), or the costs actually incurred by owners, to range from \$79/kW (kilowatt) to \$316/kW (2010 dollars). By contrast, Wyoming's SCR costs range from \$415/kW to \$531/kW."

But Dietrich takes issue with how the EPA determined its cost estimates for retrofitting, saying that the EPA employed an outside consultant from Massachusetts to estimate retrofitting costs based on aerial images of the facilities.

"It would be like you taking your car into a shop and getting your engine rebuilt," he said. "There would be a lot of hidden costs you don't know about."

Site-specific costs such as rewiring, rerouting ducts and accounting for foundational stress, he said, would not be included in those estimates.

EPA spokesman Richard Mylott, however, said, "EPA secured a contractor with expertise in control equipment design and analysis to develop cost analyses based on various sources of information."

Anderson believes the requirements are reasonable and that the proposed technologies have enjoyed success locally.

“(The requirements) are not anything extreme or outrageous,” Anderson said, adding that the proposed technology is currently in place at Gillette’s Dry Fork Station, which removes 99.7 percent of its nitrogen oxide emissions.

But Dyess charges that requiring older plants to be retrofitted with the technology will be either expensive or economically unfeasible, forcing power plant closures.

“There’s always unintended consequences to anything that happens,” he said. “If you shut a plant down, that energy has to come from somewhere else.”

“That something else would probably be more expensive than what we have now,” Eskelsen said.

Though the technology will be expensive, Eskelsen said, the proposed timetable is the more pivotal consideration. While both plans would require power plants to implement the changes within five years of the EPA’s final action this year, Rocky Mountain Power has been making gradual changes since 2005 to be in compliance with Wyoming’s plan by that time. The five-year window to comply with the EPA’s requirements is too short to implement them in a cost-effective way, he said.

While the company was able to reduce costs by scheduling the upgrades it did between 2005 and 2012 to coincide with predetermined maintenance outages, Eskelsen said, rates still increased by 3 to 8 percent per year.

“The schedule the EPA is proposing is quite aggressive and would not allow for that type of planning,” he said.

Differences in visibility

Steve Dietrich, air quality administrator for the DEQ, agrees that the proposed plan will increase consumer costs and said that the two plans would achieve little difference in visibility. Visibility is measured in deciviews, and the two plans would achieve end results within half a deciview of each other.

“Usually to the naked eye, anything less than 0.5 deciviews you’re not going to be able to tell the difference,” he said.

Anderson, however, said that the DEQ’s predictions did not take into account the collective effect of all the state’s power plants on all the state’s Class I natural areas, which the rule aims to protect.

“You shouldn’t just look at the visibility impact of one national park but look at the visibility impact of multiple national parks and wilderness areas,” she said.

Dietrich, meanwhile, stands by the DEQ’s estimates.

“As you increase distance, you get effects that could be (caused) by other states and sources in those states,” he said.

“The shorter distance you take,” he said, “the better off of you being able to calculate the impact.”

And Dyess asserts that the plans will achieve virtually the same result and charges that the plan is not compatible with the portion of the Clean Air Act requiring that states consider the cost of controls, the impact of those controls on energy availability or non-air-quality environmental impacts, the remaining useful life of the controlled equipment and the resulting visibility improvement.

“The rule was (not) set up to cost companies a bunch of money or to hurt the industry,” he said.

But the pro- and anti- rule change camps differ on many statistics essential to considering those factors. While the DEQ estimates the gap between its plan’s nitrogen oxide emission savings and the EPA’s to be about 2,900 tons per year, the EPA says that its plan will save 14,153 more tons annually than Wyoming’s. Mead said the 10-year cost of retrofitting will bear a price tag of \$1.2 billion, while the EPA says it would be substantially lower.

One thing is certain, though: the outcome will affect each and every Wyomingite, whether in terms of how many miles the vista stretches or of how high their power bill jumps.

While Anderson stresses the importance of restoring Wyoming' wilderness to its pre-settlement clarity, Dyess maintains that Wyoming's plan is able to do just that.

"When you look at both sets of rules, the end result after a decade is the same," he said. "There's no measurable difference in visibility between the two plans. The only difference is the cost."